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Soviet Submarine Warfare Trends

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SOVIET SUBMARINE
WARFARE TRENDS

Information available as of 21 December 1984 was
used in the preparation of this Study.

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PREFACE

This Estimate represents a US Intelligence Community assessment to determine if the apparent strides in Soviet submarine progress in the past few years in fact marked an acceleration of Soviet undersea warfare capabilities and what future trends could be expected. ☐

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Any attempt to portray Soviet submarine trends must necessarily examine a number of undersea warfare technical fields of some scientific complexity. Further, mere description of improvements made in various fields is inadequate to determine the significance of such improvements. We have, therefore, compared Soviet developments not only with the USSR's previous capabilities, but with the established performance of Western submarines, sensors, and weapons. ☐

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These comparisons should not be interpreted as net assessments. A comparative net evaluation of US and Soviet submarines would require an examination of factors well beyond the scope of this paper—relative readiness, tactics, missions, force correlations, professional performance, variations in acoustics and bottom topography in the postulated battle area, and numerous other considerations. These aspects are so important that no predictions about even a single one-on-one engagement can be postulated from data in this Estimate. ☐

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Rather, we have attempted to portray Soviet undersea technology trends in terms of the current state of the art to determine if Soviet efforts are likely to result in major changes relative to Western capabilities in the next 10 years. ☐

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KEY JUDGMENTS

The Soviet submarine force will remain the most important element of the Soviet Navy into the 1990s. The key trends, we believe, will be:

- A commitment to building substantially improved submarines at about the same pace as in the last decade—by the mid-1990s a new generation of submarines will allow greater flexibility in Soviet tactics and operations.
- Improved sonars and reduced radiated noise; in these aspects the attack submarines introduced in the early 1990s will be as good as the best present-day Western nuclear-powered attack submarines (SSNs).
- Continued superiority in the ability to survive a conventional weapons hit—due mostly to use of double hull designs and high-strength hull material. The newest submarines may make some current antisubmarine warfare (ASW) weapons obsolete, and may require a significant—and potentially expensive—Western response.
- Maximum speeds in the 35- to 40-knot range for some of the newest SSNs [REDACTED]
[REDACTED] We project that the tactical speed of Soviet submarines—the maximum speed at which they may still effectively use their passive sonar systems—will remain inferior to that of their better Western counterparts.
- Improved submarine-launched ballistic missiles—better accuracy, with the possibility of achieving a hard-target kill capability. The long ranges of these missiles will allow the submarines that carry them to patrol close to the USSR, thus aiding their survivability.
- Introduction of long-range, land-attack cruise missiles—the Soviets are preparing for the deployment of two different types of these nuclear-armed cruise missiles: a supersonic high-altitude weapon and a subsonic low-altitude weapon.
- The continued use of technology transfer to hasten the improvements in the Soviet submarine force.

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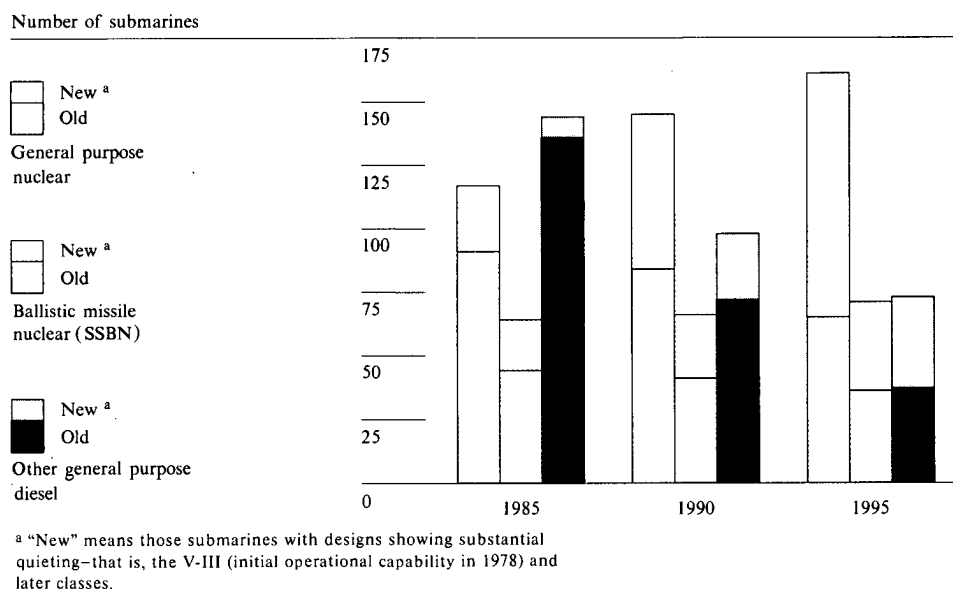
- Greater use of icefields for operations of nuclear-powered ballistic missile submarines (SSBNs). By patrolling under the ice in wartime, Soviet SSBNs could avoid the ASW threat from enemy air and surface forces.

We project that the size of the Soviet submarine force will show a modest decline, but the percentage of units that are nuclear powered will grow substantially (see figure 1). The majority of the force will consist of older, less capable units until the early 1990s. By then new, quiet nuclear-powered attack submarines will be present in sufficient numbers to challenge Western ASW forces with a significantly increased undersea threat.

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We believe these improvements do not signify a change in the missions of the Soviet submarine force, but rather that it will be more capable of performing them in the 1990s. In the areas of the ocean the Soviets would attempt to control in a conflict, their submarine force would be a formidable adversary. If, as we project, they initially station some three-quarters of their available attack submarines in these “sea control and sea denial” areas during a conflict, they can hope to provide

Figure 1
The Projected Soviet Submarine Force



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a major improvement to the survivability of their SSBNs. Their efforts to counter Western ASW defenses will make the undersea protection of carrier battle groups increasingly difficult. Soviet quieting improvements represent a program to counter Western sensor systems, including sound surveillance systems. On the other hand, we believe that Soviet submarines will not be capable of attacking any more than a few modern SSBNs, and possibly none, because of continued inability to reliably detect and track these units in the open ocean. Older SSBNs probably would be vulnerable to attack as early as the first hours of a war.

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With their newest units the Soviets will potentially be able to operate on even terms with all but the most capable Western submarines. These newest units will also pose much greater problems for other current ASW systems; we cannot evaluate the effects on programed Western improvements.

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This assessment has by definition focused on the latest and most capable Soviet submarines. We estimate that by 1995 quiet submarines will compose somewhat more than half of the active nuclear-powered submarine force. Thus, nearly half of the force will continue to contend at marked operational disadvantage against even the oldest Western SSNs.

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